

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
MATTHEW S. RYSKOSKI

Serial No.: 10/021,676

Filed: December 12, 2001

For: METHOD AND APPARATUS FOR
SCHEDULING PRODUCTION LOTS BASED
ON LOT AND TOOL HEALTH METRICS

Group Art Unit: 2125

Examiner: ALBERT W. PALADINI

Atty. Dkt. No.: 2000.08330/SFD

Rox AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF TRANSMISSION 37 CFR 1.8(a)

I hereby certify that this correspondence is being facsimile
transmitted to the United States Patent and Trademark Office, Fax
No. (703) 746-7238 on January 15, 2004.

Scott F. Diring

REPLY BRIEF

Sir:

Applicants hereby submit this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answer dated December 15, 2003. No fees are believed to be due in support of this Reply Brief. However, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, the Commissioner is authorized to deduct said fees from Advanced Micro Devices, Inc. Deposit Account No. 01-0365//TT4500.

The Examiner's answer asserts that the appeal brief does not contain a statement identifying related appeals and interferences. However, Section II states affirmatively

Assistant Commissioner for Patents
Page 2 of 4

that there are no known appeals or interferences will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

The Examiner's Answer asserts that claims 1-41 stand together because the Summary section does not delineate the claim language and the Grouping section is not persuasive. Under 37 C.F.R. § 1.192(c)(7), a single claim is selected from a group for deciding the appeal "unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable." The Grouping section includes such a statement and the arguments provide separate reasons for patentability. There is no requirement in 37 C.F.R. § 1.192(c)(5) that a separate summary be provided for each claim grouping. Accordingly, Applicant asserts that the claim groupings are proper and respectfully requests that the Board consider each grouping separately. Nonetheless, an amended Appeal Brief is provided to specify in the summary section the features of each claim grouping.

The Examiner's Answer asserts that Nulman considers item health and tool health. First, the claims include the feature of scheduling based on item health in view of tool health. The passage cited at col. 3, ll. 45-53 relate to scheduling to avoid bottlenecks. There is no consideration of item health in view of the tool health. The passages cited at col. 19, ll. 17-22 and col. 7, ll. 3-44 relate to monitoring tool performance and item quality. However, there is no consideration of item health in view of the tool health in the scheduling process. Tools are taken out of service if tool problems are identified and process control changes to the tools may be made if parameters are outside tolerances. However, process control is not a scheduling activity.

Reply Brief
Serial No. 10/021.676

Assistant Commissioner for Patents
Page 3 of 4

Applicant schedule items for processing in the tools based on item health metrics in view of tool health metrics. Inherently, a metric is a relative measure. As such Applicant determines a relative measure of item health and a relative measure of tool health and schedules based on the item health metrics in view of the tool health metrics. The Examiner's Answer asserts that Nulman considers tool health and item health, but does not describe how Nulman teaches determining metrics for tool or item health and makes scheduling decisions based on the metrics. Identifying a problem with a tool or item and adjusting the process or taking the tool out of service does not equate to determining a health metric for either the tool or the item.

As stated in Applicant's prior filings, and restated here, the Examiner has failed to demonstrate how Nulman teaches or suggests the features of the dependent claims and therefore fails to meet the Office's burden to establish *prima facie* that the claimed invention is obvious. Claims 2-8 and 22-28 include the additional feature of measuring characteristics of a plurality of manufactured items in the process flow and estimating the item health metrics for the plurality of manufactured items based on the measured characteristics. Nulman does not determine item health metrics, and therefore, cannot teach or suggest estimating the item health metrics based on measured characteristics. Claims 14-16 and 34-36 include the additional feature of generating a tool state trace related to the processing of a selected manufactured item in a selected tool, comparing the tool state trace to a tool health model associated with the selected tool, and generating the tool health metric based on the comparison between the tool state trace and the tool health model. Nulman is completely silent regarding comparing a tool state trace to a tool health model to determine a tool health metric.

Reply Brief
Serial No. 10/021.676

Assistant Commissioner for Patents
Page 4 of 4

Claims 17-20, 37-40 include the additional feature of ranking tools and items based on their respective health metrics and scheduling based on the rankings. In claims 17 and 37, the ranking is performed using a threshold comparison. Nulman does not teach or suggest ranking items and tools based on relative health measures to make scheduling decisions.

Applicants contend that the prior art does not anticipate or obviate any of the pending claims. Applicants respectfully requests that the rejections of all of the claims be reversed.

Respectfully submitted,

Date: January 15, 2004



Scott F. Diring
Attorney for Applicants
Reg. No. 35,119

WILLIAMS, MORGAN & AMERSON, P.C.
CUSTOMER NUMBER 23720

10333 Richmond Dr., Suite 1100
Houston, Texas 77042
(713) 934-4055

Reply Brief
Serial No. 10/021,676